

NOAA Technical Memorandum NWS WR-79

CLIMATE OF STOCKTON, CALIFORNIA

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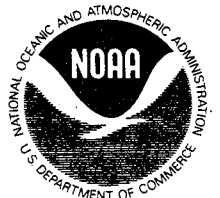


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CLIMATE OF STOCKTON, CALIFORNIA

I. GEOGRAPHICAL LOCATION

Stockton, the county seat of San Joaquin County, is located near the center of the Great Central Valley of California, on the southeast corner of the broad delta formed by the confluence of the San Joaquin and Sacramento Rivers (Figure 1). The surrounding terrain is flat, irrigated farm and orchard land, near sea level, with rivers and canals of the delta controlled by a system of levees.

Approximately 25 miles east and northeast of Stockton lie the foothills of the Sierra Nevada, rising gradually to an elevation of about 1,000 feet. Beyond the foothills, the mountains rise abruptly to the crest of the Sierra, at a distance of about 75 miles, with some peaks exceeding 9,000 feet in elevation. On a few days during the year, when atmospheric conditions are favorable, the downslope effect of a north or northeast wind can bring unseasonably dry weather to the delta area. The entire economy of the Great Valley depends upon underground water supplies and rivers which are fed in summer by melting snows piled up during winter on the windward (western) slopes of the Sierra Nevada.

To the west and southwest, the Coast Range, with peaks above 2,000 feet, form a barrier separating the Great Valley from the marine air which dominates the climate of the coastal communities. Several gaps in the Coast Range in the San Francisco Bay Area, however, permit passage inland of a sea breeze which fans out into the delta and has a moderating effect on summer heat, with the result that Stockton enjoys slightly cooler summer days than communities in the upper San Joaquin and Sacramento Valleys.

II. HISTORY OF WEATHER OBSERVATIONS

Precipitation records at Stockton began in 1851 and temperature records in 1871. Although the early location of the cooperative station is assumed to have been at the Stockton State Hospital, available records do not definitely place the station there until 1891. In 1949, the instruments were moved from the hospital grounds to Bonnie Lane Fire Station No. 4, and then, in 1967, to the present location at Fire Station No. 4 on Robin Hood Drive (Table 1).

Weather observations were also made concurrently at the Southern Pacific Depot, probably beginning in December 1891 and continuing through May 1918.

In 1914 another weather station was located at Atchison, Topeka, and Santa Fe Railroad Depot, the station agent serving as the observer.

This station was called Stockton No. 1. In 1937, the instruments were moved approximately two miles east-northeast from the depot to 519 North Golden Gate Avenue. This station was closed in September 1948.

An Army Air Corps weather station was operated at the Stockton Field from February 1941 to July 1946. From July 1946 to April 1947, the station was operated by United Airlines. In April 1947 a Civil Aeronautics Authority (now Federal Aviation Administration) weather station was established at the airport.

The U. S. Weather Bureau (now National Weather Service) took over operation of the FAA station in March 1963. In October 1963 the station was moved to its present location in the terminal building.

III. CLIMATOLOGICAL CHARACTERISTICS

Stockton's climate is characterized in summer by warm, dry days and relatively cool nights with clear skies and no rainfall, and in winter by mild temperatures and relatively light rains, with frequent heavy fogs.

The annual rainfall of Stockton averages between 13 and 14 inches, with 90 percent of this precipitation falling from November through April. Thunderstorms are infrequent, occurring on 3 or 4 days a year, and rain exceeding .50 inch on about 9 days a year. Since the Pacific storms which bring rainfall to this area are associated with above-freezing temperatures at sea level, snowfall is rare in the Stockton area.

Temperatures exceeding 100° can be expected on 6 days in July, and about 15 days during the entire summer. During these hot afternoons, the air is extremely dry with relative humidities generally less than 20 percent. Even on these hot days, however, temperatures will fall into the low sixties at night. In winter, nighttime temperatures on clear nights will fall to, or slightly below, freezing and will rise in the afternoon into the low fifties.

In late autumn and early winter, clear, still nights give rise to the formation of dense fogs which normally settle in during the night and burn off sometime during the day. However, in December and January, under stagnant atmospheric conditions the fog may last for as long as 4 to 5 weeks with only brief periods of clearing.

The following tables present averages and extremes of temperature, precipitation, wind and clouds that have been observed at Stockton during the period of record.

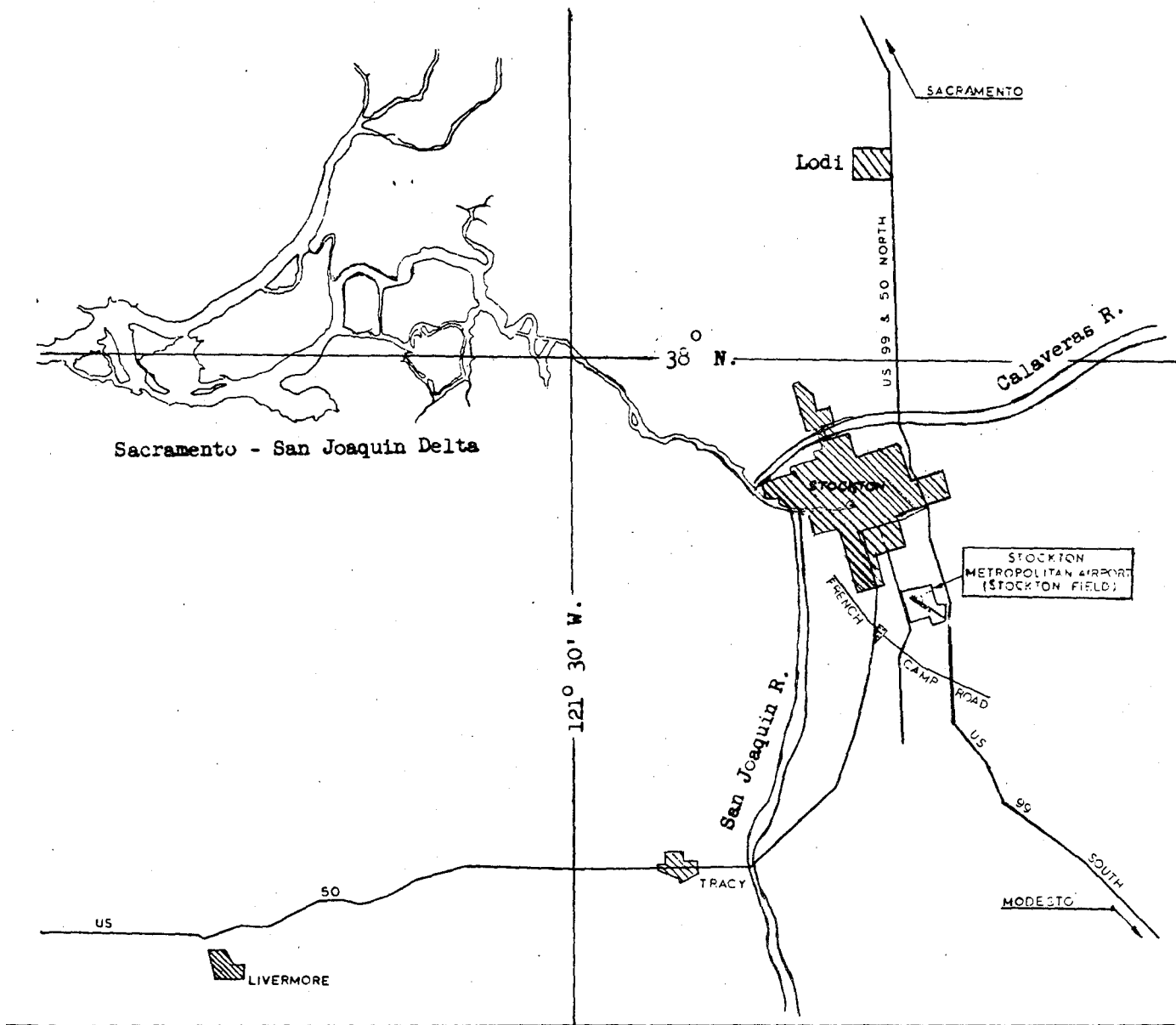


FIGURE 1.
STOCKTON AND VICINITY

TABLE I

STOCKTON COOPERATIVE WEATHER STATION LOCATIONS

1. Stockton State Hospital - 1891 - May 16, 1949.
2. Stockton Fire Station No. 4 - May 16, 1949 - December 1, 1967 - Bonnie Lane.
3. Stockton Fire Station No. 4 - December 1, 1967 to present - Robin Hood Drive.
4. Southern Pacific Depot - December 1891 - May 1918.
5. Atchison, Topeka, and San Fe Depot - 1914 - November 21, 1937.
6. 519 No. Golden Gate Avenue - November 21, 1937 - September 1948.

AIRPORT LOCATIONS

7. Stockton Airport - USAAF - February 1941 - July 1946.
8. Stockton Airport - United Airlines - July 1946 - April 10, 1947.
9. Stockton Airport - FAA - April 10, 1947 - March 4, 1963.
10. Stockton Airport - National Weather Service - March 4, 1963 - (El. 22 ft., 37°54'N, 121°15'W).

TABLE 2

DAILY NORMALS OF TEMPERATURE AND HEATING AND COOLING DEGREE DAYS 1941-70

STOCKTON, CALIF

METRO AP

| JANUARY | | | | | | FEBRUARY | | | | | MARCH | | | | | APRIL | | | | | MAY | | | | | JUNE | | | | | DAY |
|---------|--------------------|--------------------|--------------------|------------|------------|--------------------|--------------------|--------------------|------------|------------|--------------------|--------------------|--------------------|------------|------------|--------------------|--------------------|--------------------|------------|------------|--------------------|--------------------|--------------------|------------|------------|--------------------|--------------------|--------------------|------------|------------|-----|
| DAY | TEMPERATURE MAX | TEMPERATURE MIN | TEMPERATURE AVG | DEG HDD | DAY CDD | TEMPERATURE MAX | TEMPERATURE MIN | TEMPERATURE AVG | DEG HDD | DAY CDD | TEMPERATURE MAX | TEMPERATURE MIN | TEMPERATURE AVG | DEG HDD | DAY CDD | TEMPERATURE MAX | TEMPERATURE MIN | TEMPERATURE AVG | DEG HDD | DAY CDD | TEMPERATURE MAX | TEMPERATURE MIN | TEMPERATURE AVG | DEG HDD | DAY CDD | TEMPERATURE MAX | TEMPERATURE MIN | TEMPERATURE AVG | DEG HDD | DAY CDD | DAY |
| 1 | 51 | 36 | 44 | 21 | 0 | 56 | 38 | 47 | 18 | 0 | 62 | 40 | 51 | 14 | 0 | 69 | 42 | 55 | 10 | 0 | 76 | 47 | 62 | 4 | 1 | 84 | 53 | 69 | 1 | 5 | 1 |
| 2 | 51 | 36 | 44 | 21 | 0 | 56 | 38 | 47 | 18 | 0 | 62 | 40 | 51 | 14 | 0 | 69 | 42 | 56 | 10 | 0 | 77 | 48 | 62 | 4 | 1 | 85 | 53 | 69 | 1 | 5 | 2 |
| 3 | 51 | 36 | 44 | 21 | 0 | 56 | 38 | 47 | 18 | 0 | 62 | 40 | 51 | 14 | 0 | 69 | 43 | 56 | 9 | 0 | 77 | 48 | 62 | 4 | 1 | 85 | 53 | 69 | 1 | 5 | 3 |
| 4 | 51 | 36 | 44 | 21 | 0 | 57 | 38 | 47 | 18 | 0 | 62 | 40 | 51 | 14 | 0 | 69 | 43 | 56 | 9 | 0 | 77 | 48 | 63 | 4 | 1 | 85 | 54 | 69 | 1 | 5 | 4 |
| 5 | 51 | 36 | 44 | 21 | 0 | 57 | 38 | 48 | 17 | 0 | 63 | 40 | 51 | 14 | 0 | 70 | 43 | 56 | 9 | 0 | 77 | 48 | 63 | 4 | 1 | 85 | 54 | 70 | 1 | 5 | 5 |
| 6 | 51 | 36 | 44 | 21 | 0 | 57 | 38 | 48 | 17 | 0 | 63 | 40 | 51 | 14 | 0 | 70 | 43 | 57 | 9 | 0 | 78 | 48 | 63 | 3 | 1 | 85 | 54 | 70 | 1 | 5 | 6 |
| 7 | 52 | 36 | 44 | 21 | 0 | 57 | 39 | 48 | 17 | 0 | 63 | 40 | 52 | 13 | 0 | 70 | 43 | 57 | 9 | 0 | 78 | 48 | 63 | 3 | 1 | 86 | 54 | 70 | 1 | 6 | 7 |
| 8 | 52 | 36 | 44 | 21 | 0 | 58 | 39 | 48 | 17 | 0 | 63 | 40 | 52 | 13 | 0 | 70 | 44 | 57 | 9 | 0 | 78 | 49 | 63 | 3 | 1 | 86 | 54 | 70 | 1 | 6 | 8 |
| 9 | 52 | 36 | 44 | 21 | 0 | 58 | 39 | 48 | 17 | 0 | 63 | 40 | 52 | 13 | 0 | 71 | 44 | 57 | 8 | 1 | 79 | 49 | 64 | 3 | 2 | 86 | 54 | 70 | 1 | 6 | 9 |
| 10 | 52 | 36 | 44 | 21 | 0 | 58 | 39 | 49 | 16 | 0 | 63 | 40 | 52 | 13 | 0 | 71 | 44 | 57 | 8 | 1 | 79 | 49 | 64 | 3 | 2 | 87 | 55 | 71 | 1 | 6 | 10 |
| 11 | 52 | 36 | 44 | 21 | 0 | 58 | 39 | 49 | 16 | 0 | 64 | 40 | 52 | 13 | 0 | 71 | 44 | 58 | 8 | 1 | 79 | 49 | 64 | 3 | 2 | 87 | 55 | 71 | 1 | 6 | 11 |
| 12 | 52 | 36 | 44 | 21 | 0 | 59 | 39 | 49 | 16 | 0 | 64 | 40 | 52 | 13 | 0 | 71 | 44 | 58 | 8 | 1 | 79 | 49 | 64 | 2 | 2 | 87 | 55 | 71 | 1 | 7 | 12 |
| 13 | 52 | 36 | 44 | 21 | 0 | 59 | 39 | 49 | 16 | 0 | 64 | 40 | 52 | 13 | 0 | 72 | 44 | 58 | 8 | 1 | 80 | 49 | 65 | 2 | 2 | 87 | 55 | 71 | 1 | 7 | 13 |
| 14 | 52 | 36 | 44 | 21 | 0 | 59 | 39 | 49 | 16 | 0 | 64 | 40 | 52 | 13 | 0 | 72 | 45 | 58 | 7 | 1 | 80 | 50 | 65 | 2 | 2 | 88 | 55 | 71 | 1 | 7 | 14 |
| 15 | 52 | 36 | 44 | 21 | 0 | 59 | 39 | 49 | 16 | 0 | 64 | 40 | 52 | 13 | 0 | 72 | 45 | 58 | 7 | 1 | 80 | 50 | 65 | 2 | 2 | 88 | 55 | 72 | 1 | 7 | 15 |
| 16 | 52 | 36 | 44 | 21 | 0 | 59 | 39 | 49 | 16 | 0 | 65 | 40 | 53 | 12 | 0 | 73 | 45 | 59 | 7 | 1 | 80 | 50 | 65 | 2 | 2 | 88 | 56 | 72 | 0 | 7 | 16 |
| 17 | 53 | 36 | 44 | 21 | 0 | 60 | 40 | 50 | 15 | 0 | 65 | 40 | 53 | 12 | 0 | 73 | 45 | 59 | 7 | 1 | 81 | 50 | 65 | 2 | 2 | 88 | 56 | 72 | 0 | 8 | 17 |
| 18 | 53 | 36 | 44 | 21 | 0 | 60 | 40 | 50 | 15 | 0 | 65 | 41 | 53 | 12 | 0 | 73 | 45 | 59 | 7 | 1 | 81 | 50 | 66 | 2 | 2 | 89 | 56 | 72 | 0 | 8 | 18 |
| 19 | 53 | 36 | 45 | 20 | 0 | 60 | 40 | 50 | 15 | 0 | 65 | 41 | 53 | 12 | 0 | 73 | 45 | 59 | 6 | 1 | 81 | 50 | 66 | 2 | 3 | 89 | 56 | 73 | 0 | 8 | 19 |
| 20 | 53 | 36 | 45 | 20 | 0 | 60 | 40 | 50 | 15 | 0 | 66 | 41 | 53 | 12 | 0 | 74 | 46 | 60 | 6 | 1 | 81 | 51 | 66 | 2 | 3 | 89 | 56 | 73 | 0 | 8 | 20 |
| 21 | 53 | 36 | 45 | 20 | 0 | 60 | 40 | 50 | 15 | 0 | 66 | 41 | 53 | 12 | 0 | 74 | 46 | 60 | 6 | 1 | 82 | 51 | 66 | 1 | 3 | 90 | 56 | 73 | 0 | 8 | 21 |
| 22 | 54 | 36 | 45 | 20 | 0 | 61 | 40 | 50 | 15 | 0 | 66 | 41 | 53 | 12 | 0 | 74 | 46 | 60 | 6 | 1 | 82 | 51 | 67 | 1 | 3 | 90 | 56 | 73 | 0 | 9 | 22 |
| 23 | 54 | 36 | 45 | 20 | 0 | 61 | 40 | 50 | 15 | 0 | 66 | 41 | 54 | 11 | 0 | 74 | 46 | 60 | 6 | 1 | 82 | 51 | 67 | 1 | 3 | 90 | 57 | 73 | 0 | 9 | 23 |
| 24 | 54 | 37 | 45 | 20 | 0 | 61 | 40 | 50 | 15 | 0 | 67 | 41 | 54 | 11 | 0 | 75 | 46 | 60 | 6 | 1 | 82 | 51 | 67 | 1 | 3 | 90 | 57 | 74 | 0 | 9 | 24 |
| 25 | 54 | 37 | 45 | 20 | 0 | 61 | 40 | 51 | 14 | 0 | 67 | 41 | 54 | 11 | 0 | 75 | 46 | 61 | 5 | 1 | 83 | 52 | 67 | 1 | 3 | 91 | 57 | 74 | 0 | 9 | 25 |
| 26 | 54 | 37 | 46 | 19 | 0 | 61 | 40 | 51 | 14 | 0 | 67 | 41 | 54 | 11 | 0 | 75 | 47 | 61 | 5 | 1 | 83 | 52 | 67 | 1 | 4 | 91 | 57 | 74 | 0 | 9 | 26 |
| 27 | 55 | 37 | 46 | 19 | 0 | 62 | 40 | 51 | 14 | 0 | 67 | 42 | 54 | 11 | 0 | 75 | 47 | 61 | 5 | 1 | 83 | 52 | 68 | 1 | 4 | 91 | 57 | 74 | 0 | 9 | 27 |
| 28 | 55 | 37 | 46 | 19 | 0 | 62 | 40 | 51 | 14 | 0 | 67 | 42 | 55 | 11 | 0 | 76 | 47 | 61 | 5 | 1 | 83 | 52 | 68 | 1 | 4 | 92 | 57 | 74 | 0 | 10 | 28 |
| 29 | 55 | 37 | 46 | 19 | 0 | 62 | 40 | 51 | 14 | 0 | 68 | 42 | 55 | 10 | 0 | 76 | 47 | 62 | 5 | 1 | 83 | 52 | 68 | 1 | 4 | 92 | 57 | 75 | 0 | 10 | 29 |
| 30 | 55 | 37 | 46 | 19 | 0 | 62 | 40 | 51 | 14 | 0 | 68 | 42 | 55 | 10 | 0 | 76 | 47 | 62 | 4 | 1 | 84 | 53 | 68 | 1 | 4 | 92 | 58 | 75 | 0 | 10 | 30 |
| 31 | 56 | 38 | 47 | 19 | 0 | | | | | | 68 | 42 | 55 | 10 | 0 | | | | | | 84 | 53 | 68 | 1 | 4 | | | | | | 31 |

| MONTHLY NORMALS | | MONTHLY NORMALS | | MONTHLY NORMALS | | MONTHLY NORMALS | | MONTHLY NORMALS | | MONTHLY NORMALS | |
|-----------------|------|-----------------|------|-----------------|------|-----------------|------|-----------------|------|-----------------|------|
| MAX | 52.8 | MAX | 59.0 | MAX | 64.8 | MAX | 72.4 | MAX | 80.3 | MAX | 88.1 |
| MIN | 36.3 | MIN | 39.2 | MIN | 40.6 | MIN | 44.8 | MIN | 50.0 | MIN | 55.4 |
| MEAN | 44.6 | MEAN | 49.1 | MEAN | 52.7 | MEAN | 58.6 | MEAN | 65.2 | MEAN | 71.8 |
| HEATING | 632 | HEATING | 445 | HEATING | 381 | HEATING | 214 | HEATING | 67 | HEATING | 15 |
| COOLING | 0 | COOLING | 0 | COOLING | 0 | COOLING | 22 | COOLING | 73 | COOLING | 219 |

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TABLE 3

NORMAL, HIGHEST, AND LOWEST MONTHLY AVERAGE TEMPERATURE
WITH YEAR OF OCCURRENCE
APRIL 1906 TO JULY 1975

| MONTH | NORMAL MONTHLY AVERAGE | HIGHEST MONTHLY AVERAGE | YEAR | LOWEST MONTHLY AVERAGE | YEAR |
|-----------|------------------------------|-------------------------------|------|------------------------------|------|
| JANUARY | 44.6 | 53.6 | 1909 | 37.2 | 1937 |
| FEBRUARY | 49.1 | 57.1 | 1907 | 45.5 | 1949 |
| MARCH | 52.7 | 60.8 | 1934 | 49.4 | 1935 |
| APRIL | 58.6 | 65.3 | 1926 | 50.1 | 1967 |
| MAY | 65.2 | 71.5 | 1910 | 59.2 | 1930 |
| JUNE | 71.8 | 78.3 | 1960 | 65.4 | 1923 |
| JULY | 76.7 | 82.8 | 1906 | 71.4 | 1930 |
| AUGUST | 75.3 | 81.2 | 1967 | 70.3 | 1925 |
| SEPTEMBER | 72.1 | 75.7 | 1967 | 63.8 | 1930 |
| OCTOBER | 63.5 | 68.1 | 1907 | 58.2 | 1946 |
| NOVEMBER | 52.9 | 59.1 | 1909 | 48.4 | 1946 |
| DECEMBER | 45.6 | 51.1 | 1910 | 39.2 | 1963 |
| ANNUAL | 60.7 | 82.8 | 1906 | 37.2 | 1937 |

CLIMATOLOGICAL STANDARD NORMALS 1941 - 1970

TABLE 4

STOCKTON, CALIFORNIA

*NORMAL, HIGHEST, AND LOWEST AVERAGE MAXIMUM TEMPERATURE BY MONTH -
APRIL 1906 - JULY 1975

| MONTH | NORMAL MONTHLY MAXIMUM | HIGHEST AVERAGE MAXIMUM | YEAR | LOWEST AVERAGE MAXIMUM | YEAR |
|-----------|------------------------------|-------------------------------|------|------------------------------|------|
| JANUARY | 52.8 | 60.9 | 1948 | 46.5 | 1937 |
| FEBRUARY | 59.2 | 65.3 | 1924 | 52.5 | 1969 |
| MARCH | 64.8 | 75.5 | 1926 | 59.9 | 1907 |
| APRIL | 72.4 | 80.7 | 1931 | 58.9 | 1967 |
| MAY | 80.3 | 86.5 | 1973 | 67.3 | 1915 |
| JUNE | 88.1 | 96.1 | 1960 | 78.7# | 1923 |
| JULY | 94.7 | 99.4 | 1961 | 85.6 | 1915 |
| AUGUST | 92.8 | 98.5 | 1967 | 84.5 | 1925 |
| SEPTEMBER | 88.8 | 92.3 | 1952 | 76.1 | 1930 |
| OCTOBER | 78.1 | 83.3 | 1952 | 69.8 | 1920 |
| NOVEMBER | 64.2 | 72.0 | 1939 | 56.9 | 1972 |
| DECEMBER | 53.3 | 62.9 | 1958 | 43.1 | 1963 |
| ANNUAL | 74.1 | 99.4 | 1961 | 43.1 | 1963 |

TABLE 5

HIGHEST AND LOWEST DAILY MAXIMUM TEMPERATURE BY MONTH
JANUARY 1907 TO JULY 1975

| MONTH | HIGHEST TEMP. | DAY | YEAR | LOWEST MAXIMUM TEMP. | DAY | YEAR |
|-----------|------------------|-----|------|----------------------------|-----|------|
| JANUARY | 75 | 9 | 1953 | 32# | 6 | 1961 |
| FEBRUARY | 77 | 26 | 1926 | 41 | 1 | 1972 |
| MARCH | 89 | 9 | 1946 | 46 | 4 | 1951 |
| APRIL | 98 | 21 | 1931 | 49 | 16 | 1942 |
| MAY | 103# | 29 | 1973 | 55 | 13 | 1968 |
| JUNE | 111# | 21 | 1961 | 59 | 8 | 1964 |
| JULY | 114 | 14 | 1972 | 72 | 30 | 1966 |
| AUGUST | 109 | 10 | 1971 | 64 | 31 | 1964 |
| SEPTEMBER | 108# | 2 | 1950 | 66# | 27 | 1965 |
| OCTOBER | 101 | 2 | 1952 | 55 | 16 | 1971 |
| NOVEMBER | 88 | 5 | 1950 | 42 | 28 | 1952 |
| DECEMBER | 74# | 5 | 1940 | 32 | 20 | 1965 |
| ANNUAL | 114 | 14 | 1972 | 32# | 20 | 1965 |

*Climatological Standard Normals (1941 - 1970).

#Also on other dates, months, or years.

TABLE 6

STOCKTON, CALIFORNIA

NUMBER OF DAYS PER YEAR WITH MAXIMUM TEMPERATURES 90°, 100°, 105° OR HIGHER
1906 - 1974

| (1) 90° OR HIGHER | | (2) 100° OR HIGHER | | (3) 105° OR HIGHER | |
|----------------------|------|-----------------------|------|-----------------------|------|
| DAYS | YEAR | DAYS | YEAR | DAYS | YEAR |
| 102 | 1970 | 38 | 1961 | 17 | 1961 |
| 100 | 1960 | 34 | 1960 | 15 | 1960 |
| 99 | 1967 | 27 | 1926 | 9 | 1950 |
| 99 | 1974 | 26 | 1967 | 8 | 1926 |
| 97 | 1961 | 24 | 1970 | 7 | 1931 |
| 96 | 1971 | 23 | 1931 | 6 | 1959 |
| 93 | 1952 | 23 | 1971 | 6 | 1972 |
| 89 | 1926 | 23 | 1973 | 6 | 1973 |
| 89 | 1969 | 22 | 1952 | 6 | 1917 |
| 88 | 1971 | 22 | 1966 | 5 | 1906 |
| 87 | 1972 | 21 | 1969 | 5 | 1942 |
| 85 | 1936 | 21 | 1973 | 5 | 1964 |
| 85 | 1939 | 21 | 1974 | 5 | 1967 |
| 85 | 1966 | 20 | 1933 | 5 | 1971 |
| 85 | 1962 | | | | |
| 80 | 1958 | | | | |

(1) Only years with 80 or more days tabulated.

(2) Only years with 20 or more days tabulated.

(3) Only years with 5 or more days tabulated.

TABLE 7

AVERAGE NUMBER OF DAYS PER MONTH WITH MAXIMUM TEMPERATURES 90°, 100°, 105° OR HIGHER

APRIL 1906 - DECEMBER 1974

| MONTH | 90° OR HIGHER | 100° OR HIGHER | 105° OR HIGHER |
|----------------|---------------|----------------|----------------|
| APRIL | * | - | - |
| MAY | 4 | * | - |
| JUNE | 11 | 2 | * |
| JULY | 21 | 3 | 1 |
| AUGUST | 18 | 3 | * |
| SEPTEMBER | 10 | 1 | * |
| OCTOBER | 1 | - | - |
| ANNUAL AVERAGE | 65 | 9 | 1 |

*Less than 1 day.

TABLE 8

STOCKTON, CALIFORNIA

GREATEST NUMBER OF CONSECUTIVE DAYS WITH 90° OR HIGHER IN JUNE, JULY,
AUGUST, SEPTEMBER, AND OCTOBER
JUNE 1906 - OCTOBER 1974

(Only Periods of 20 or More Days Tabulated)

| <u>YEAR</u> | <u>PERIOD</u> | <u>DAYS</u> |
|-------------|--------------------------|-------------|
| 1967 | June 21 - August 27 | 68 |
| 1971 | July 18 - August 27 | 41 |
| 1959 | July 8 - August 3 | 27 |
| 1966 | July 31 - August 25 | 26 |
| 1964 | July 5 - July 29 | 25 |
| 1969 | July 25 - August 17 | 24 |
| 1961 | July 6 - July 29 | 24 |
| 1954 | July 11 - August 4 | 24 |
| 1953 | July 1 - July 23 | 23 |
| 1952 | August 13 - September 3 | 22 |
| 1952 | September 14 - October 5 | 22 |
| 1960 | July 31 - August 20 | 21 |
| 1948 | August 25 - September 14 | 21 |
| 1939 | July 7 - July 27 | 21 |
| 1937 | August 2 - August 22 | 21 |
| 1933 | July 10 - June 30 | 21 |
| 1973 | June 24 - July 13 | 20 |
| 1962 | July 13 - August 1 | 20 |
| 1950 | June 26 - July 15 | 20 |

Average Number of Consecutive Days with 90 or Higher 20

Earliest in the Spring - April 11, 1908.

Latest in the Fall - October 25, 1959.

TABLE 9
STOCKTON, CALIFORNIA

*NORMAL, HIGHEST, AND LOWEST AVERAGE MINIMUM TEMPERATURE BY MONTH, APRIL 1906 - JULY 1975

| NORMAL | NORMAL MONTHLY MINIMUM | HIGHEST AVERAGE MINIMUM | YEAR | LOWEST AVERAGE MINIMUM | YEAR |
|-----------|------------------------|-------------------------|------|------------------------|------|
| JANUARY | 36.3 | 46.3 | 1909 | 27.0 | 1949 |
| FEBRUARY | 39.2 | 50.2 | 1907 | 33.0 | 1964 |
| MARCH | 40.6 | 51.5 | 1911 | 36.7 | 1935 |
| APRIL | 44.8 | 56.1 | 1907 | 40.0 | 1929 |
| MAY | 50.0 | 60.8 | 1910 | 43.7 | 1908 |
| JUNE | 55.4 | 65.3 | 1906 | 50.3 | 1946 |
| JULY | 58.7 | 70.4 | 1906 | 53.7 | 1940 |
| AUGUST | 57.8 | 68.6 | 1913 | 50.7 | 1946 |
| SEPTEMBER | 55.3 | 61.2 | 1967 | 49.2 | 1946 |
| OCTOBER | 48.9 | 57.8 | 1907 | 41.1 | 1946 |
| NOVEMBER | 41.5 | 51.6 | 1913 | 32.6 | 1938 |
| DECEMBER | 37.9 | 44.7 | 1950 | 30.1 | 1932 |
| ANNUAL | 47.2 | 70.4 | 1906 | 27.0 | 1949 |

TABLE 10

*NORMAL, HIGHEST, AND LOWEST DAILY MINIMUM TEMPERATURE BY MONTH, APRIL 1906 - JULY 1975

| MONTH | LOWEST TEMPERATURE | DAY | YEAR | HIGHEST MINIMUM TEMPERATURE | DAY | YEAR |
|-----------|--------------------|-----|------|-----------------------------|-----|------|
| JANUARY | 16 | 11 | 1949 | 57# | 21 | 1970 |
| FEBRUARY | 23# | 1 | 1948 | 57# | 23 | 1968 |
| MARCH | 26 | 14 | 1954 | 58 | 29 | 1974 |
| APRIL | 29 | 6 | 1929 | 58# | 17 | 1954 |
| MAY | 36# | 1 | 1948 | 69# | 29 | 1973 |
| JUNE | 38 | 21 | 1928 | 76 | 27 | 1973 |
| JULY | 45 | 23 | 1924 | 80 | 25 | 1974 |
| AUGUST | 42 | 17 | 1957 | 76 | 6 | 1961 |
| SEPTEMBER | 39# | 27 | 1948 | 71 | 7 | 1969 |
| OCTOBER | 28 | 29 | 1946 | 62 | 3 | 1952 |
| NOVEMBER | 24 | 13 | 1938 | 62# | 20 | 1950 |
| DECEMBER | 17# | 15 | 1940 | 61 | 23 | 1964 |
| ANNUAL | 16 | 11 | 1949 | 80 | 25 | 1974 |

*Climatological Standard Normals (1941 - 1960).

#Also on Other Dates, Months, and Years.

TABLE 11

STOCKTON, CALIFORNIA

AVERAGE, HIGHEST, AND LOWEST COOLING DEGREE-DAYS BY MONTH, 1906 - 1974
(Base 75 Degrees)

| MONTH | AVERAGE | HIGHEST | YEAR | LOWEST | YEAR |
|-----------|---------|---------|------|--------|---------------|
| MAY | 13 | 141 | 1961 | 0 | Many Years |
| JUNE | 44 | 229 | 1961 | 2 | 1923 |
| JULY | 87 | 246 | 1906 | 3 | 1925 |
| AUGUST | 57 | 199 | 1967 | 0 | 1925 |
| SEPTEMBER | 22 | 77 | 1952 | 0 | Several Years |
| OCTOBER | 1 | 18 | 1952 | 0 | Most Years |
| ANNUAL | 224 | 591 | 1961 | 41 | 1930 |

A cooling degree-day is equal to the average temperature for the day minus 75°F. with negative difference being counted as zero. The cooling degree-day is used by utility companies to determine cooling requirements. It is also used to help determine the size of refrigeration plants needed. The accumulation of "cooling degree-days" begins January 1.

TABLE 12

FREEZE DATA - STOCKTON AIRPORT
JANUARY 1907 - DECEMBER 1974

| AVERAGE DATE IN THE SPRING | AVERAGE DATE IN THE FALL | LATEST DATE IN THE SPRING | EARLIEST DATE IN THE FALL |
|-------------------------------|-----------------------------|------------------------------|------------------------------|
| February 20 | December 1 | April 24, 1964 | October 26, 1939 |

*FREEZE-FREE PERIOD

| AVERAGE LENGTH | LONGEST | | SHORTEST | |
|----------------|---------|--|----------|-------------------------------------|
| | DAYS | DATE | DAYS | DATE |
| 286 | 365 | 1908 from January 1 to December 31 | 205 | 1964 from April 24 - November 16 |

*Freeze-free period is the number of days between the last freeze (32°F. or below) in the spring and the first freeze (32° or below) in the fall.

TABLE 13

NUMBER OF DAYS PER YEAR WITH MINIMUM TEMPERATURE 32°F OR LOWER (AVERAGE 25)

| LEAST NUMBER OF DAYS | | GREATEST NUMBER OF DAYS | |
|----------------------|------------------|-------------------------|------------------|
| <u>Days</u> | <u>Year</u> | <u>Days</u> | <u>Year</u> |
| 0 | 1908 | 65 | 1929 |
| 1 | 1907, 1909 | 53 | 1939 |
| 5 | 1911 | 51 | 1949 |
| 6 | 1925, 1934 | 50 | 1956 |
| 7 | 1910 | 45 | 1947 |
| 9 | 1942, 1973 | 42 | 1938, 1948 |
| 10 | 1914, 1958, 1970 | 41 | 1946 |
| 11 | 1920 | 38 | 1935, 1955 |
| 12 | 1915, 1941 | 37 | 1930, 1937, 1964 |
| 13 | 1921 | 36 | 1932 |
| 16 | 1965 | 35 | 1936 |
| 17 | 1952, 1974 | 33 | 1937 |

TABLE 14

PROBABILITY (%) OF OBSERVING 32° OR LOWER, 28° OR LOWER, AND 24° OR LOWER (1)

| <u>Probability (%)</u> | <u>Later Than Given Date In the Spring (2)</u> | | | <u>Earlier Than Given Date In the Fall (3)</u> | | |
|------------------------|--|-------------------------|-------------------------|--|-------------------------|-------------------------|
| | <u>32° or Lower</u> | <u>28° or Lower</u> | <u>24° or Lower</u> | <u>32° or Lower</u> | <u>28° or Lower</u> | <u>24° or Lower</u> |
| 90 | Feb 4 | | | Dec 7 | | |
| 80 | Feb 14 | Jan 20 | | Dec 1 | Dec 31 | |
| 70 | Feb 22 | Jan 29 | | Nov 26 | Dec 21 | |
| 60 | Feb 28 | Feb 4 | | Nov 22 | Dec 13 | |
| 50 | Mar 6 | Feb 10 | | Nov 18 | Dec 7 | |
| 40 | Mar 12 | Feb 16 | Jan 1 | Nov 14 | Dec 1 | |
| 30 | Mar 18 | Feb 22 | Jan 12 | Nov 10 | Nov 26 | |
| 20 | Mar 26 | Mar 1 | Jan 21 | Nov 5 | Nov 20 | Dec 9 |
| 10 | Apr 7 | Mar 16 | Jan 30 | Oct 28 | Nov 11 | Nov 18 |

(1) Period of Record: 1931 - 1960.

(2) Spring Season: Later than January 1.

(3) Fall Season: Up through December 31.

TABLE 15

STOCKTON, CALIFORNIA

GREATEST NUMBER OF CONSECUTIVE DAYS WITH MINIMUM 32° OR LOWER IN
NOVEMBER, DECEMBER, JANUARY, AND FEBRUARY
JANUARY 1907 - JULY 1975

(Only periods of 12 days or more are tabulated)

| YEAR | PERIOD | DAYS |
|----------------|---------------------------|------|
| 1918 - 19 | December 22 - January 9 | 19 |
| 1963 | January 7 - January 25 | 19 |
| 1949 | January 3 - January 18 | 16 |
| 1936 | November 30 - December 14 | 15 |
| 1930 | December 18 - December 31 | 14 |
| 1946 - 47 | December 28 - January 10 | 14 |
| 1929 | January 4 - January 16 | 13 |
| 1947 | January 12 - January 24 | 13 |
| 1929 | February 7 - February 18 | 12 |
| 1929 | November 13 - November 24 | 12 |
| 1935 | December 14 - December 25 | 12 |
| 1960 - 61 | December 27 - January 7 | 12 |
| Yearly Average | | 25 |

AVERAGE NUMBER OF DAYS WITH MINIMUM TEMPERATURE 32° OR LOWER

| | | | |
|----------|--------|----------------|---------|
| JANUARY | 9 Days | NOVEMBER | 3 Days |
| FEBRUARY | 4 Days | DECEMBER | 8 Days |
| MARCH | 1 Day | ANNUAL AVERAGE | 25 Days |

TABLE 16

STOCKTON, CALIFORNIA

NORMAL, HIGHEST, AND LOWEST HEATING DEGREE-DAYS BY MONTH (BASE 65 DEGREES)
JULY 1907 - JULY 1975

| MONTH | NORMAL | HIGHEST | YEAR | LOWEST | YEAR |
|-----------|--------|---------|---------|--------|---------|
| July | 0 | 5 | 1948 | 0 | Most |
| August | 0 | 6 | 1964 | 0 | Most |
| September | 0 | 52 | 1930 | 0 | Few |
| October | 88 | 202 | 1920 | 10 | 1907 |
| November | 363 | 487 | 1946 | 123 | 1937 |
| December | 601 | 794 | 1963 | 425 | 1910 |
| January | 632 | 854 | 1937 | 353 | 1909 |
| February | 445 | 549 | 1956 | 216 | 1907 |
| March | 381 | 478 | 1935 | 126 | 1934 |
| April | 214 | 442 | 1967 | 47 | 1907 |
| May | 67 | 206 | 1933 | 3 | 1907 |
| June | 15 | 58 | 1929 | 0 | 1974* |
| Seasonal | 2806 | 3331 | 1954-55 | 1834 | 1909-10 |

A "Heating Degree-Day" is a measure of the departure of the average daily temperature from 65°F with negative differences being counted as zero. This means that each degree that the daily average temperature is below 65°F is equal to one degree day. The degree day is applied to fuel and power consumption and is used by utility companies, for example, to determine heating requirements. Industry has found that the preferred household temperature of 72°F is too high a base for their computations because of the certain amount of heat generated by appliances, electric light, human bodies, etc.

The accumulation of "Heating Degree-Days" begins on July 1.

*Also on 11 years.

TABLE 17

NORMAL (1931-60), MAXIMUM, AND MINIMUM MONTHLY AND SEASONAL PRECIPITATION
(1851 - 1975)

| MONTH | NORMAL | MAXIMUM | YEAR | MINIMUM | YEAR |
|-----------|--------|---------|---------|---------|-----------------------------|
| July | .01 | .61 | 1974 | .00 | Most Years |
| August | .03 | .85 | 1864 | .00 | Most Years |
| September | .17 | 3.68 | 1918 | .00 | Many Years |
| October | .72 | 3.39 | 1889 | .00 | Several Years |
| November | 1.72 | 6.72 | 1864 | .00 | 1884 1890 1929 1933 1936 |
| December | 2.68 | 13.41 | 1852 | .00 | 1876 |
| January | 2.91 | 15.04 | 1862 | .18 | 1948 |
| February | 2.11 | 8.94 | 1854 | .05 | 1964 |
| March | 1.96 | 7.29 | 1903 | .00 | 1934 |
| April | 1.37 | 6.28 | 1880 | .00 | 1875 1877 1898 1909 1949 |
| May | .42 | 4.84 | 1883 | .00 | Many Years |
| June | .07 | 1.36 | 1892 | .00 | Many Years |
| Seasonal | 14.17 | 35.54 | 1861/62 | 6.73 | 1870/71 |

TABLE 18
STOCKTON, CALIFORNIA

GREATEST NUMBER OF DAYS WITH TRACE OR MORE AND .01 OR MORE PRECIPITATION BY MONTH AND YEAR OF OCCURRENCE AND AVERAGE NUMBER OF DAYS WITH .01 OR MORE BY MONTH 1907 - 1974

| MONTH | TRACE OR MORE | YEAR | .01 OR MORE | YEAR | AVERAGE .01 OR MORE |
|-----------|---------------|--------------------|-------------|----------|---------------------|
| JANUARY | 21 | 1940, 1969 1970 | 21 | 1940 | 10 |
| FEBRUARY | 21 | 1915, 1969 | 21 | 1915 | 9 |
| MARCH | 19 | 1958 | 18 | 1907 | 8 |
| APRIL | 18 | 1948, 1967 | 16 | 1967 | 5 |
| MAY | 14 | 1957 | 11 | 1915 | 3 |
| JUNE | 7 | 1964 | 4 | 1907 | 1 |
| JULY | 3 | 1974 | 2 | 1974 | 0 |
| AUGUST | 4 | 1961, 1965 | 1* | 10 Years | 0 |
| SEPTEMBER | 6 | 1918 | 5 | 1918 | 1 |
| OCTOBER | 11 | 1945 | 8 | 1972 | 3 |
| NOVEMBER | 17 | 1972 | 15 | 1973 | 7 |
| DECEMBER | 23 | 1964 | 19 | 1970 | 9 |
| ANNUAL | 100 | 1941 | 81 | 1973 | 56 |

TABLE 19
STOCKTON, CALIFORNIA

GREATEST NUMBER OF DAYS WITH .10 INCH OR MORE, .50 INCH OR MORE, AND 1.00 INCH OR MORE (1907 - 1974)

| MONTH | .10 OR MORE | YEAR | .50 OR MORE | YEAR | 1.00 OR MORE | YEAR |
|-----------|-------------|------------------------|-------------|------------------------|--------------|------------------------|
| JANUARY | 17 | 1909 | 9 | 1911 | 4 | 1911 |
| FEBRUARY | 15 | 1936 | 7 | 1936 | 2 | 1922 1962 |
| MARCH | 13 | 1958 | 4 | 1949 | 2 | 1970 + 5 earlier years |
| APRIL | 11 | 1967 | 3 | 1926 1951 1958 | 2 | 1926 |
| MAY | 6 | 1915 | 3 | 1915 1925 | 1 | 1932 1948 |
| JUNE | 3 | 1907 | NONE | | NONE | |
| JULY | 2 | 1974 | NONE | | NONE | |
| AUGUST | 1 | 1965 + 4 earlier years | NONE | | NONE | |
| SEPTEMBER | 4 | 1918 | 1 | 1912 1918 1959 | 1 | 1918 1959 |
| OCTOBER | 5 | 1920 1945 1947 | 2 | 1973 + 5 earlier years | 2 | 1945 |
| NOVEMBER | 10 | 1913 1973 | 6 | 1972 | 3 | 1970 |
| DECEMBER | 13 | 1970 | 6 | 1922 | 2 | 1973 + 4 earlier years |
| ANNUAL | 50 | 1941 | 18 | 1940 | 7 | 1943 1970 |

TABLE 20
 SNOWFALL OCCURRENCES (1)(2)
 OCCURRENCE OF SNOWFALL IN STOCKTON (JANUARY 1906 - JULY 1975)

| YEAR | DATE | SNOWFALL |
|------|-------------|----------|
| 1916 | January 1 | 5.0 |
| 1922 | January 29 | 2.5 |
| 1922 | January 30 | T |
| 1930 | January 12 | 2.0 |
| 1932 | December 9 | 1.0 |
| 1950 | January 4 | T |
| 1968 | December 20 | T |
| 1971 | February 27 | T |
| 1972 | February 3 | T |
| 1972 | December 6 | T |
| 1972 | December 12 | T |

(1) Sleet was included in snowfall totals beginning with July 1948.

Note: The item "Ice Pellets" is now internationally recognized and includes solid grains of ice (sleet) and particles of snow pellets encased in a thin layer of ice. In most cases snowfall in Stockton is estimated because it usually melts as fast as it falls.

T = Trace, less than .01 melted.

(2) Snowfall data is for city office through 1940; airport data thereafter.

TABLE 21
 STOCKTON, CALIFORNIA
 AVERAGE NUMBER OF CLEAR, PARTLY CLOUDY, CLOUDY, AND HEAVY FOG DAYS (1941 - 1974)

| MONTH | CLEAR | PARTLY CLOUDY | CLOUDY | HEAVY FOG |
|-----------|-------|---------------|--------|-----------|
| JANUARY | 5 | 8 | 18 | 12 |
| FEBRUARY | 8 | 6 | 14 | 7 |
| MARCH | 11 | 8 | 12 | 2 |
| APRIL | 11 | 9 | 10 | 1 |
| MAY | 16 | 9 | 6 | 0 |
| JUNE | 21 | 6 | 3 | 0 |
| JULY | 28 | 3 | 0 | 0 |
| AUGUST | 26 | 3 | 2 | 0 |
| SEPTEMBER | 25 | 4 | 1 | 0 |
| OCTOBER | 19 | 6 | 6 | 2 |
| NOVEMBER | 10 | 8 | 12 | 9 |
| DECEMBER | 6 | 7 | 18 | 11 |
| ANNUAL | 186 | 77 | 102 | 44 |

TABLE 22
STOCKTON, CALIFORNIA

GREATEST NUMBER OF CONSECUTIVE DAYS WITH HEAVY FOG FOR THE MONTHS OF NOVEMBER, DECEMBER, JANUARY, AND FEBRUARY* (JANUARY 1942 - JULY 1975)

| YEAR | MONTH | DAYS |
|---------|---------------------------|------|
| 1963-64 | December 9 - January 5 | 28 |
| 1962-63 | December 25 - January 10 | 16 |
| 1975 | January 12 - 25 | 14 |
| 1959 | November 12 - 18 | 12 |
| 1967-68 | December 26 - January 6 | 12 |
| 1954 | November 17 - 27 | 11 |
| 1949 | November 24 - December 3 | 10 |
| 1956 | December 13 - December 22 | 10 |
| 1942 | December 10 - 18 | 9 |
| 1944 | December 5 - 13 | 9 |
| 1953 | December 12 - 19 | 8 |
| 1958 | January 15 - 22 | 8 |
| 1961 | January 6 - 13 | 8 |
| 1965 | January 13 - 20 | 8 |
| 1969 | November 24 - December 1 | 8 |

Average based on period - 8.

*Only periods of 8 or more days are tabulated.

TABLE 23

GREATEST NUMBER OF DAYS OF HEAVY FOG IN ONE MONTH (JANUARY 1942 - JULY 1975)

| MONTH-YEAR | DAYS | MONTH-YEAR | DAYS |
|-----------------|------|-----------------|------|
| December - 1963 | 25 | December - 1961 | 18 |
| December - 1962 | 23 | January - 1975 | 17 |
| January - 1961 | 23 | January - 1968 | 17 |
| January - 1962 | 19 | December - 1944 | 16 |
| January - 1963 | 19 | January - 1942 | 15 |
| February - 1963 | 19 | December - 1947 | 14 |
| January - 1972 | 19 | November - 1951 | 14 |
| December - 1973 | 19 | November - 1954 | 14 |
| November - 1949 | 18 | January - 1965 | 14 |
| January - 1958 | 18 | February - 1968 | 14 |

(Only months with 14 or more days of heavy fog were tabulated.)

Heavy Fog - Visibility restricted to 1/4 mile or less during any period of a 24-hour day from midnight to midnight.

TABLE 24
 STOCKTON, CALIFORNIA
 AVERAGE RELATIVE HUMIDITY

| | <u>4 a.m.</u> | <u>10 a.m.</u> | <u>4 p.m.</u> | <u>10 p.m.</u> |
|-----------|---------------|----------------|---------------|----------------|
| January | 91 | 85 | 70 | 88 |
| February | 90 | 77 | 62 | 83 |
| March | 87 | 68 | 53 | 78 |
| April | 83 | 58 | 45 | 77 |
| May | 80 | 50 | 38 | 69 |
| June | 73 | 41 | 28 | 57 |
| July | 69 | 41 | 26 | 53 |
| August | 72 | 44 | 28 | 56 |
| September | 72 | 47 | 30 | 58 |
| October | 78 | 57 | 42 | 68 |
| November | 88 | 74 | 58 | 82 |
| December | 94 | 87 | 77 | 91 |
| Annual | 81 | 61 | 46 | 72 |

TABLE 25
STOCKTON, CALIFORNIA

HOLIDAY WEATHER INFORMATION

| Holiday | Average Maximum Temp. | Average Minimum Temp. | Highest Temp. | Year | Lowest Temp. | Year | Frequency of Trace or More of Precipitation (Percentage) |
|--------------------------------------|-----------------------------|-----------------------------|------------------|------|-----------------|------|---|
| New Year's Day January 1 | 50 | 36 | 61 | 1923 | 24 | 1919 | 34 |
| Washington's Birthday February | 62 | 41 | 73 | 1947 | 28 | 1951 | 36 |
| Easter Season March - April 14 | 69 | 44 | 91 | 1942 | 29 | 1944 | 31* |
| Memorial Day May 30 | 81 | 54 | 102 | 1910 | 42 | 1908 | 0 |
| Independence Day July 4 | 93 | 59 | 110 | 1931 | 47 | 1947 | 0 |
| Labor Day Week September 1 - 7 | 88 | 57 | 108 | 1950 | 41 | 1939 | 1* |
| Halloween October 31 | 71 | 44 | 83 | 1966 | 31 | 1935 | 1 |
| Thanksgiving Day November 22 - 28 | 52 | 38 | 78 | 1939 | 26 | 1947 | 45* |
| Christmas Day December 25 | 53 | 37 | 67 | 1915 | 21 | 1930 | 49 |

*These percentages relate to the probability of precipitation on any one day of the given period.

TABLE 26
STOCKTON, CALIFORNIA

AVERAGE SPEED, PREVAILING DIRECTION, AND HIGHEST ONE-MINUTE SPEED
(1941 - 1974)

| MONTH | AVERAGE SPEED (MPH) | PREVAILING DIRECTION | HIGHEST ONE-MINUTE WIND SPEED (MPH) | DIRECTION | DAY/ YEAR |
|-----------|---------------------------|-------------------------|--|-----------|--------------|
| January | 6.4 | Southeast | 46 | Southeast | 24/1967 |
| February | 6.8 | Southeast | 47 | Southeast | 1/1945 |
| March | 7.4 | West | 53 | Southeast | 16/1945 |
| April | 8.0 | West | 56 | Northwest | 1/1945 |
| May | 8.9 | West | 40 | Southwest | 20/1946 |
| June | 9.2 | West | 40 | Northwest | 20/1947 |
| July | 8.2 | Northwest | 29 | Southwest | 29/1945 |
| August | 7.6 | Northwest | 33 | Southwest | 24/1945 |
| September | 6.9 | Northwest | 38 | Northwest | 2/1961 |
| October | 6.2 | Northwest | 46 | Southeast | 29/1945 |
| November | 5.5 | Southeast | 40 | Southeast | 13/1965 |
| December | 5.9 | Southeast | 44 | Southeast | 28/1965 |
| Annual | 7.3 | West | 56 | Northwest | 4/1/1945 |

TABLE 27

AVERAGE, HIGHEST, AND LOWEST SEA-LEVEL PRESSURE
JANUARY 1957 - DECEMBER 1974

| MONTH | AVERAGE | HIGHEST | DAY | YEAR | LOWEST | DAY | YEAR |
|-----------|---------|----------|-----|------|---------|-----|-------|
| January | 30.11 | 30.63 | 26 | 1965 | 29.39 | 21 | 1969 |
| February | 30.05 | 30.50 | 12 | 1960 | 29.45 | 11 | 1973 |
| March | 30.01 | 30.59 | 2 | 1971 | 29.49 | 22 | 1964 |
| April | 29.98 | 30.38 | 3 | 1963 | 29.49 | 1 | 1958 |
| May | 29.90 | 30.34 | 16 | 1971 | 29.61 | 4 | 1969 |
| June | 29.84 | 30.18 | 3 | 1966 | 29.57 | 27 | 1957 |
| July | 29.85 | 30.18 | 5 | 1961 | 29.61 | 21 | 1974* |
| August | 29.85 | 30.16 | 22 | 1968 | 29.67 | 16 | 1972* |
| September | 29.85 | 30.23 | 19 | 1972 | 29.49 | 16 | 1965 |
| October | 29.95 | 30.33 | 28 | 1970 | 29.57 | 9 | 1960 |
| November | 30.05 | 30.53 | 18 | 1969 | 29.56 | 22 | 1965 |
| December | 30.10 | 30.64 | 22 | 1967 | 29.46 | 6 | 1966 |
| Annual | 29.96 | 30.64 | 22 | 1967 | 29.39 | 21 | 1969 |
| | | December | | | January | | |

*Also on earlier dates, months, or years.

SUNRISE AND SUNSET AT STOCKTON, CALIFORNIA

PACIFIC STANDARD TIME

| DAY | JAN. | | FEB. | | MAR. | | APR. | | MAY | | JUNE | | JULY | | AUG. | | SEPT. | | OCT. | | NOV. | | DEC. | |
|-----|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|--------------|-------------|
| | Rise A.M. | Set P.M. | Rise A.M. | Set P.M. | Rise A.M. | Set P.M. | Rise A.M. | Set P.M. | Rise A.M. | Set P.M. | Rise A.M. | Set P.M. | Rise A.M. | Set P.M. | Rise A.M. | Set P.M. | Rise A.M. | Set P.M. | Rise A.M. | Set P.M. | Rise A.M. | Set P.M. | Rise A.M. | Set P.M. |
| 1 | 7 21 | 4 56 | 7 10 | 5 28 | 6 37 | 5 58 | 5 51 | 6 28 | 5 09 | 6 56 | 4 44 | 7 22 | 4 46 | 7 31 | 5 08 | 7 14 | 5 35 | 6 35 | 6 00 | 5 48 | 6 30 | 5 06 | 7 02 | 4 46 |
| 2 | 7 21 | 4 57 | 7 09 | 5 29 | 6 36 | 5 59 | 5 49 | 6 29 | 5 08 | 6 56 | 4 44 | 7 22 | 4 47 | 7 31 | 5 09 | 7 13 | 5 35 | 6 33 | 6 01 | 5 47 | 6 32 | 5 05 | 7 03 | 4 46 |
| 3 | 7 21 | 4 58 | 7 08 | 5 30 | 6 34 | 6 00 | 5 48 | 6 30 | 5 07 | 6 57 | 4 44 | 7 23 | 4 47 | 7 31 | 5 10 | 7 12 | 5 36 | 6 32 | 6 02 | 5 45 | 6 33 | 5 04 | 7 04 | 4 46 |
| 4 | 7 21 | 4 59 | 7 07 | 5 32 | 6 33 | 6 01 | 5 46 | 6 31 | 5 06 | 6 58 | 4 43 | 7 24 | 4 48 | 7 31 | 5 10 | 7 11 | 5 37 | 6 30 | 6 03 | 5 44 | 6 34 | 5 03 | 7 05 | 4 46 |
| 5 | 7 21 | 5 00 | 7 06 | 5 33 | 6 31 | 6 02 | 5 45 | 6 32 | 5 05 | 6 59 | 4 43 | 7 24 | 4 48 | 7 31 | 5 11 | 7 10 | 5 38 | 6 29 | 6 04 | 5 42 | 6 35 | 5 02 | 7 06 | 4 46 |
| 6 | 7 21 | 5 01 | 7 05 | 5 34 | 6 30 | 6 03 | 5 43 | 6 32 | 5 04 | 7 00 | 4 43 | 7 25 | 4 49 | 7 31 | 5 12 | 7 09 | 5 39 | 6 27 | 6 05 | 5 41 | 6 36 | 5 01 | 7 07 | 4 46 |
| 7 | 7 21 | 5 02 | 7 04 | 5 35 | 6 29 | 6 04 | 5 42 | 6 33 | 5 03 | 7 01 | 4 43 | 7 25 | 4 49 | 7 30 | 5 13 | 7 08 | 5 40 | 6 26 | 6 06 | 5 39 | 6 37 | 5 00 | 7 07 | 4 46 |
| 8 | 7 21 | 5 03 | 7 03 | 5 36 | 6 27 | 6 05 | 5 40 | 6 34 | 5 02 | 7 02 | 4 42 | 7 26 | 4 50 | 7 30 | 5 14 | 7 07 | 5 41 | 6 24 | 6 07 | 5 38 | 6 38 | 4 59 | 7 08 | 4 46 |
| 9 | 7 21 | 5 04 | 7 02 | 5 37 | 6 26 | 6 06 | 5 39 | 6 35 | 5 01 | 7 03 | 4 42 | 7 26 | 4 50 | 7 30 | 5 15 | 7 06 | 5 41 | 6 23 | 6 08 | 5 36 | 6 39 | 4 58 | 7 09 | 4 46 |
| 10 | 7 21 | 5 04 | 7 01 | 5 38 | 6 24 | 6 07 | 5 37 | 6 36 | 5 00 | 7 04 | 4 42 | 7 27 | 4 51 | 7 29 | 5 16 | 7 05 | 5 42 | 6 21 | 6 09 | 5 35 | 6 40 | 4 58 | 7 10 | 4 46 |
| 11 | 7 21 | 5 05 | 7 00 | 5 39 | 6 23 | 6 08 | 5 36 | 6 37 | 4 59 | 7 05 | 4 42 | 7 27 | 4 52 | 7 29 | 5 16 | 7 03 | 5 43 | 6 20 | 6 10 | 5 34 | 6 41 | 4 57 | 7 11 | 4 46 |
| 12 | 7 21 | 5 06 | 6 59 | 5 40 | 6 21 | 6 09 | 5 34 | 6 38 | 4 58 | 7 06 | 4 42 | 7 28 | 4 52 | 7 29 | 5 17 | 7 02 | 5 44 | 6 18 | 6 11 | 5 32 | 6 42 | 4 56 | 7 12 | 4 46 |
| 13 | 7 21 | 5 07 | 6 58 | 5 42 | 6 20 | 6 10 | 5 33 | 6 39 | 4 57 | 7 06 | 4 42 | 7 28 | 4 53 | 7 28 | 5 18 | 7 01 | 5 45 | 6 16 | 6 11 | 5 31 | 6 43 | 4 55 | 7 12 | 4 46 |
| 14 | 7 20 | 5 08 | 6 57 | 5 43 | 6 18 | 6 11 | 5 32 | 6 40 | 4 56 | 7 07 | 4 42 | 7 29 | 4 54 | 7 28 | 5 19 | 7 00 | 5 46 | 6 15 | 6 12 | 5 29 | 6 44 | 4 54 | 7 13 | 4 46 |
| 15 | 7 20 | 5 10 | 6 55 | 5 44 | 6 17 | 6 12 | 5 30 | 6 41 | 4 55 | 7 08 | 4 42 | 7 29 | 4 54 | 7 27 | 5 20 | 6 58 | 5 47 | 6 13 | 6 13 | 5 28 | 6 45 | 4 54 | 7 14 | 4 47 |
| 16 | 7 20 | 5 11 | 6 54 | 5 45 | 6 15 | 6 13 | 5 29 | 6 42 | 4 54 | 7 09 | 4 42 | 7 29 | 4 55 | 7 27 | 5 21 | 6 57 | 5 47 | 6 12 | 6 14 | 5 26 | 6 47 | 4 53 | 7 14 | 4 47 |
| 17 | 7 19 | 5 12 | 6 53 | 5 46 | 6 14 | 6 14 | 5 27 | 6 43 | 4 53 | 7 10 | 4 42 | 7 30 | 4 56 | 7 26 | 5 22 | 6 56 | 5 48 | 6 10 | 6 15 | 5 25 | 6 48 | 4 52 | 7 15 | 4 47 |
| 18 | 7 19 | 5 13 | 6 52 | 5 47 | 6 12 | 6 15 | 5 26 | 6 44 | 4 53 | 7 11 | 4 42 | 7 30 | 4 57 | 7 25 | 5 23 | 6 55 | 5 49 | 6 09 | 6 16 | 5 24 | 6 49 | 4 52 | 7 16 | 4 48 |
| 19 | 7 18 | 5 14 | 6 50 | 5 48 | 6 11 | 6 16 | 5 25 | 6 44 | 4 52 | 7 12 | 4 42 | 7 30 | 4 57 | 7 25 | 5 23 | 6 53 | 5 50 | 6 07 | 6 17 | 5 22 | 6 50 | 4 51 | 7 16 | 4 48 |
| 20 | 7 18 | 5 15 | 6 49 | 5 49 | 6 09 | 6 17 | 5 23 | 6 45 | 4 51 | 7 12 | 4 42 | 7 31 | 4 58 | 7 24 | 5 24 | 6 52 | 5 51 | 6 06 | 6 18 | 5 21 | 6 51 | 4 50 | 7 17 | 4 49 |
| 21 | 7 17 | 5 16 | 6 48 | 5 50 | 6 08 | 6 18 | 5 22 | 6 46 | 4 50 | 7 13 | 4 43 | 7 31 | 4 59 | 7 24 | 5 25 | 6 51 | 5 52 | 6 04 | 6 19 | 5 20 | 6 52 | 4 50 | 7 17 | 4 49 |
| 22 | 7 17 | 5 17 | 6 47 | 5 51 | 6 06 | 6 19 | 5 21 | 6 47 | 4 50 | 7 14 | 4 43 | 7 31 | 5 00 | 7 23 | 5 26 | 6 49 | 5 53 | 6 02 | 6 20 | 5 18 | 6 53 | 4 49 | 7 18 | 4 50 |
| 23 | 7 16 | 5 18 | 6 45 | 5 52 | 6 04 | 6 20 | 5 19 | 6 48 | 4 49 | 7 15 | 4 43 | 7 31 | 5 00 | 7 22 | 5 27 | 6 48 | 5 53 | 6 01 | 6 21 | 5 17 | 6 54 | 4 49 | 7 18 | 4 50 |
| 24 | 7 16 | 5 19 | 6 44 | 5 53 | 6 03 | 6 21 | 5 18 | 6 49 | 4 48 | 7 16 | 4 43 | 7 31 | 5 01 | 7 21 | 5 28 | 6 46 | 5 54 | 5 59 | 6 22 | 5 16 | 6 55 | 4 48 | 7 19 | 4 51 |
| 25 | 7 15 | 5 20 | 6 43 | 5 54 | 6 01 | 6 21 | 5 17 | 6 50 | 4 48 | 7 16 | 4 44 | 7 31 | 5 02 | 7 21 | 5 29 | 6 45 | 5 55 | 5 58 | 6 23 | 5 15 | 6 56 | 4 48 | 7 19 | 4 51 |
| 26 | 7 14 | 5 21 | 6 41 | 5 55 | 6 00 | 6 22 | 5 15 | 6 51 | 4 47 | 7 17 | 4 44 | 7 31 | 5 03 | 7 20 | 5 29 | 6 44 | 5 56 | 5 56 | 6 24 | 5 13 | 6 57 | 4 47 | 7 19 | 4 52 |
| 27 | 7 14 | 5 23 | 6 40 | 5 56 | 5 58 | 6 23 | 5 14 | 6 52 | 4 47 | 7 18 | 4 44 | 7 31 | 5 04 | 7 19 | 5 30 | 6 42 | 5 57 | 5 55 | 6 25 | 5 12 | 6 58 | 4 47 | 7 20 | 4 53 |
| 28 | 7 13 | 5 24 | 6 39 | 5 57 | 5 57 | 6 24 | 5 13 | 6 53 | 4 46 | 7 19 | 4 45 | 7 32 | 5 04 | 7 18 | 5 31 | 6 41 | 5 58 | 5 53 | 6 26 | 5 11 | 6 59 | 4 47 | 7 20 | 4 53 |
| 29 | 7 12 | 5 25 | 6 38 | 5 58 | 5 55 | 6 25 | 5 12 | 6 54 | 4 46 | 7 19 | 4 45 | 7 32 | 5 05 | 7 17 | 5 32 | 6 39 | 5 59 | 5 52 | 6 27 | 5 10 | 7 00 | 4 47 | 7 20 | 4 54 |
| 30 | 7 11 | 5 26 | | | 5 54 | 6 26 | 5 10 | 6 55 | 4 45 | 7 20 | 4 46 | 7 31 | 5 06 | 7 16 | 5 33 | 6 38 | 6 00 | 5 50 | 6 28 | 5 09 | 7 01 | 4 46 | 7 21 | 4 55 |
| 31 | 7 11 | 5 27 | | | 5 52 | 6 27 | | | 4 45 | 7 21 | | | 5 07 | 7 15 | 5 34 | 6 36 | | | 6 29 | 5 08 | | | 7 21 | 4 55 |

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Add one hour for Daylight Saving Time if and when in use.

I certify that the above data are the result of an accurate and true computation by the Nautical Almanac Office, United States Naval Observatory, an agency charged by Federal Statute (9 Stat. L 374, 375) with the duty of making such computations and publishing the results.



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TABLE 29
STOCKTON, CALIFORNIA
WEATHER EXTREMES

WEATHER EXTREMES FOR STOCKTON AS COMPARED TO THOSE OF CALIFORNIA, THE UNITED STATES, NORTH AMERICA, AND THE WORLD

HIGHEST TEMPERATURE (DEGREES F.)

| | | |
|---------------|-----|--|
| STOCKTON | 114 | July 14, 1972 |
| California | 134 | Greenland Ranch, Death Valley, July 10, 1913 |
| United States | 134 | Greenland Ranch, Death Valley, July 10, 1913 |
| North America | 134 | Greenland Ranch, Death Valley, July 10, 1913 |
| World | 136 | Azizia, Tripolitania, Libya, Africa, September 13, 1922 |

LOWEST TEMPERATURES (DEGREES F.)

| | | |
|---------------|------|---|
| STOCKTON | 16 | January 11, 1949 |
| California | -45 | Boca, Nevada County (Elevation 5532 Ft.), January 20, 1937 |
| United States | -80 | Prospect Creek, Alaska, January 23, 1971 |
| North America | -81 | Snag Yukon, Canada, February 3, 1947 |
| World | -127 | Vostok Antarctica (Elevation 11,440 Ft.), August 24, 1960 |

GREATEST PRECIPITATION IN 24 HOURS (INCHES)

| | | |
|---------------|-------|---|
| STOCKTON | 3.01 | January 21, 1967 |
| California | 26.12 | Hogee's Camp Ivy, Los Angeles County (Elevation 2750 Ft.), January 22 - 23, 1943 |
| United States | 38.20 | Thrall, Texas, September 9 - 10, 1921 |
| North America | 38.20 | Thrall, Texas, September 9 - 10, 1921 |
| World | 73.62 | Cilaos La Reunion (Island 400 miles east of Madagascar), March 15 - 16, 1962 |

GREATEST PRECIPITATION IN ONE CALENDAR MONTH (INCHES)

| | | |
|---------------|--------|---|
| STOCKTON | 15.04 | January 1862 |
| California | 71.54 | Helen Mine, Lake County (Elevation 2760 Ft.), January 1909 |
| United States | 107.00 | Puu Kukui, Maui, Hawaii, March 1942 |
| North America | 88.01 | Swanson Bay, British Columbia, Canada, November 1917 |
| World | 366.14 | Cherrapunji, India, July 1861 |

GREATEST PRECIPITATION IN ONE YEAR (SEASONAL OR CALENDAR YEAR, AS STATED)

| | | |
|---------------|----------|---|
| | (Inches) | |
| STOCKTON | 35.54 | Seasonal year, July 1861 - June 1862 |
| California | 153.54 | Monumental Del Norte County (Elevation 2750 Ft.), Calendar Year 1909 |
| | 161.00 | Cold Springs Camp Monterey County (Elevation 3280 Ft.), Seasonal Year, July 1940 - June 1941 |
| United States | 578.00 | Puu Kukui, Maui, Hawaii, Calendar Year 1931 |

WEATHER EXTREMES (Continued)

GREATEST PRECIPITATION IN ONE YEAR (SEASONAL OR CALENDAR YEAR, AS STATED)
(contd.)

| | (Inches) | |
|---------------|----------|---|
| North America | 323.70 | Henderson Lake, British Columbia, Canada, Calendar Year 1931 |
| World | 905.12 | Cherranpunji, India, Calendar Year 1861 |
| | 1041.78 | Cherranpunji, India, Seasonal, August 1860 - July 1861 |

LEAST PRECIPITATION IN ONE YEAR (SEASONAL OR CALENDAR, AS STATED)

| | | |
|---------------|------|--|
| STOCKTON | 6.73 | Seasonal Year, July 1870 - June 1871 |
| California | 0.00 | Bagdad, California, Calendar Year 1913 |
| United States | 0.00 | Bagdad, California, Calendar Year 1913 |

LOWEST SEA-LEVEL PRESSURE (MILLIBARS AND INCHES)

| | | |
|---------------|-------------|---|
| STOCKTON | 995.3/29.39 | January 21, 1969 |
| California | 975.6/28.81 | Point Reyes, January 27, 1916 |
| United States | 892.3/26.35 | Matecumbe Key, Florida, September 2, 1935 |
| North America | 892.3/26.35 | Matecumbe Key, Florida, United States, September 2, 1935 |
| World | 877.0/25.90 | 19°N. 135°E. in Eye of Typhoon Ida, by Aerial Reconnaissance, September 24, 1958 |

HIGHEST SEA-LEVEL PRESSURE (MILLIBARS AND INCHES)

| | | |
|---------------|--------------|---|
| STOCKTON | 1037.6/30.64 | December 22, 1967 |
| California | 1041.0/30.74 | Sacramento, February 17, 1883 |
| United States | 1063.3/31.40 | Helena, Montana, January 9, 1962 |
| North America | 1067.3/31.51 | Medicine Hat, Alberta, Canada, January 24, 1897 |
| World | 1079/31.89 | Barnaul, Siberia, USSR, January 23, 1900 |

HIGHEST WIND SPEED (MILES PER HOUR)

| | | |
|---------------|-----|--|
| STOCKTON | 56 | *Fastest Mile, April 1, 1945 |
| California | 70 | *Sacramento, Fastest Mile, November 13, 1953, and December 7, 1952 |
| United States | 231 | Peak Gust at Mt. Washington, New Hampshire, April 12, 1934 |
| North America | 231 | Peak Gust at Mt. Washington, New Hampshire, United States, April 12, 1934 |
| World | 231 | Peak Gust at Mt. Washington, New Hampshire, United States, April 12, 1934 |

*Fastest mile is the highest 1-minute observed wind speed. Stronger peak gusts have been observed, but an official record of peak wind gusts is not available.

NOTE: Weather extreme information other than Stockton data was extracted from National Weather Service Western Region Technical Memorandum WBTM-28 entitled, "Weather Extremes", by R. J. Schmidli, dated April 1968.

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- No. 45/2 Precipitation Probabilities in the Western Region Associated with Spring 500-mb Map Types. Richard P. Augulis, January 1970. (Out of print.) (PB-189434)
- No. 45/3 Precipitation Probabilities in the Western Region Associated with Summer 500-mb Map Types. Richard P. Augulis, January 1970. (Out of print.) (PB-189414)
- No. 45/4 Precipitation Probabilities in the Western Region Associated with Fall 500-mb Map Types. Richard P. Augulis, January 1970. (Out of print.) (PB-189455)
- No. 46 Applications of the Wet Radiometer to Short-Range Fog and Stratus Forecasting at Eugene, Oregon. L. Yee and E. Bates, December 1969. (PB-190476)
- No. 47 Statistical Analysis as a Flood Routing Tool. Robert J. C. Burnash, December 1969. (PB-186744)
- No. 48 Tsunami. Richard P. Augulis, February 1970. (PB-190157)
- No. 49 Predicting Precipitation Type. Robert J. C. Burnash and Floyd E. Hug, March 1970. (PB-190962)
- No. 50 Statistical Report on Aeroallergens (Pollens and Molds) From Huachuca, Arizona, 1969. Wayne S. Johnson, April 1970. (PB-191743)
- No. 51 Western Region Sea State and Surf Forecaster's Manual. Gordon C. Shields and Gerald E. Burdwell, July 1970. (PB-193102)
- No. 52 Sacramento Weather Radar Climatology. R. C. Pappas and G. M. Veliquette, July 1970. (PB-195347)
- No. 53 Experimental Air Quality Forecasts in the Sacramento Valley. Norman S. Benas, August 1970. (Out of print.) (PB-194128)
- No. 54 A Refinement of the Vorticity Field to Delineate Areas of Significant Precipitation. Barry B. Arenovitch, August 1970.
- No. 55 Application of the SSARR Model to a Basin Without Discharge Record. Vali Schermerhorn and Donald W. Kiehl, August 1970. (PB-194394)
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- No. 59 Application of P.E. Model Forecast Parameters to Local-Area Forecasting. Leonard W. Shalman, October 1970. (OO-71-00016)

NOAA Technical Memoranda NWS

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- No. 63 700-mb Warm Air Advection as a Forecasting Tool for Montana and Northern Idaho. Norris E. Woerner, February 1971. (OO-71-00349)
- No. 64 Wind and Weather Regimes at Great Falls, Montana. Warren S. Price, March 1971.
- No. 65 Climate of Sacramento, California. Wilbur E. Figgins, June 1971. (OO-71-00764)
- No. 66 A Preliminary Report on Correlation of ARTC Radar Echoes and Precipitation. Wilbur K. Hall, June 1971. (OO-71-00828)
- No. 67 Precipitation Detection Probabilities by Los Angeles ARTC radars. Denis E. Renig, July 1971. (Out of print.) (OO-71-00923)
- No. 68 A Survey of Marine Weather Requirements. Herbert P. Benner, July 1971. (Out of print.) (OO-71-00889)
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- No. 71 Western Region Synoptic Analysis-Problems and Methods. Philip Williams, Jr., February 1972. (OO-72-10453)
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- No. 73 A Synoptic Climatology for Snowstorms in Northwestern Nevada. Bert L. Neilson, Paul M. Franziot, and Clarence W. Sakamoto, February 1972. (Out of print.) (OO-72-10328)
- No. 74 Thunderstorms and Heat Days Probabilities in Nevada. Clarence W. Sakamoto, April 1972. (OO-72-10554)
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- No. 76 Monthly Climatological Charts of the Behavior of Fog and Low Stratus at Los Angeles International Airport. Donald W. Bates, July 1972. (OO-72-11140)
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- No. 78 Forecasting Precipitation at Bakersfield, California, Using Pressure Gradient Vectors. Earl T. Ridgough, July 1972. (OO-72-11146)

